

Annex 1: Measurement diagrams to Test Report 19-1-0069003T30a-C1-A1

Number of pages:	7	Date of Report:	2020-Nov-19
Testing company:	CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	Applicant:	WAGO KONTAKTTECHNIK GMBH & CO. KG
Test Object / Tested Device(s):	8PORT IOL-B FLD PN DC 24V 2.0A WideLine 765-4102/0100-0000 WAGO I/O System Field		
FCC ID:	2AKUE-WIDELINE	IC:	22322-WIDELINE
Testing has been carried out in accordance with:	FCC Regulations PART 15—RADIO FREQUENCY DEVICES Subpart B Radiated emissions in the frequency range 30 to 1000 MHz Radiated emissions in the frequency range 1 to 6 GHz Radiated emissions in the frequency range 1 to 12.75 GHz		

1 Measurement diagrams

Diagram No. 3.01 FCC

1.1 Radiated emissions in the frequency range 30 to 1000 MHz

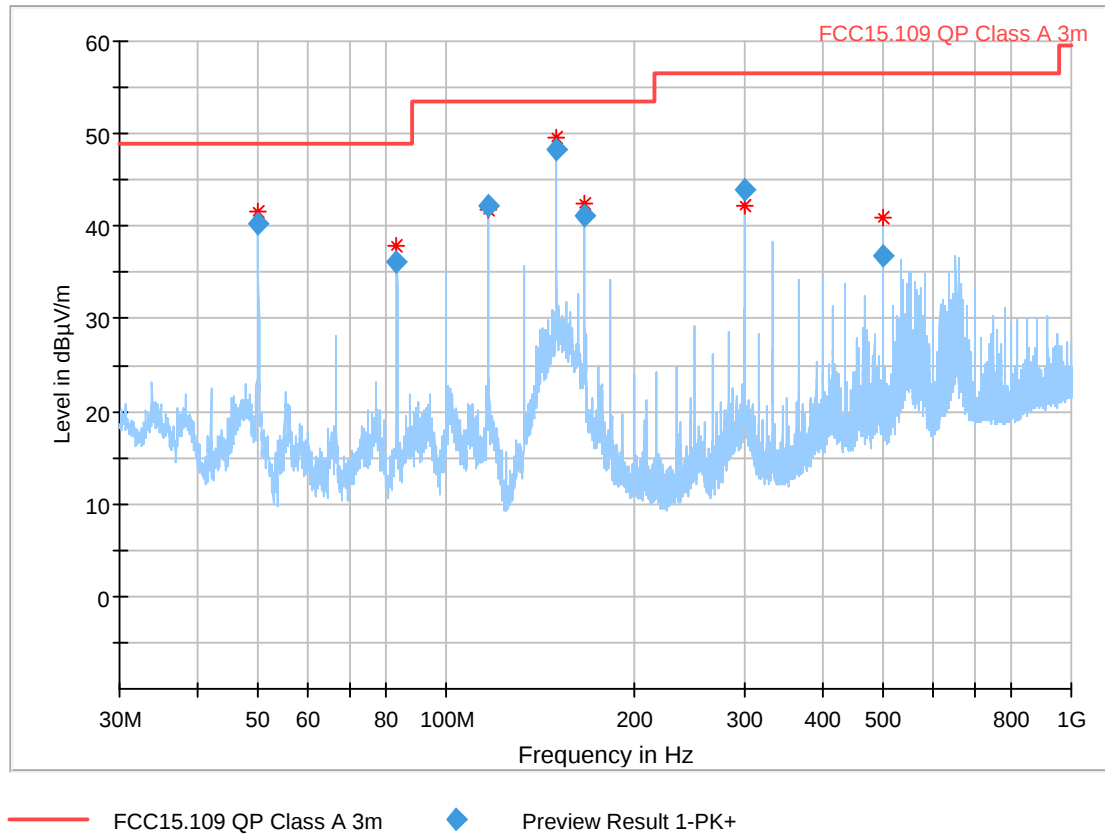
Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	8PORT IOL-B FLD PN DC 24V 2.0A – WideLine 765-4102/0100-0000
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HW Version:	Rev. 4
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum

Full Spectrum



Preliminary_Result (SAC 3m distance)

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.000000	40.32	49.00	8.68	120.000	100.0	V	-1.0	7.9
83.332000	36.16	49.00	12.84	120.000	108.0	V	333.0	11.2
116.664000	42.26	53.50	11.24	120.000	104.0	V	342.0	12.5
150.000000	48.30	53.50	5.20	120.000	100.0	V	154.0	10.0
166.664000	41.24	53.50	12.26	120.000	100.0	V	66.0	11.2
299.996000	43.91	56.50	12.59	120.000	131.0	H	235.0	12.9
499.996000	36.71	56.50	19.79	120.000	111.0	V	224.0	17.5

Final_Result (OATS – 10 m distance)

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
50.000000	35.48	39.00	3.52	120.000	149.0	V	178.0	15.2
83.332000	20.75	39.00	18.25	120.000	186.0	V	-149.0	11.5
116.664000	29.20	43.50	14.30	120.000	108.0	V	-28.0	16.8
150.000000	37.74	43.50	5.76	120.000	109.0	V	-146.0	19.1
166.664000	28.69	43.50	14.81	120.000	102.0	V	180.0	19.5
299.996000	33.96	46.40	12.44	120.000	213.0	H	-37.0	26.1
499.996000	19.38	46.40	27.02	120.000	231.0	V	-171.0	25.3

Diagram No. 4.01 FCC

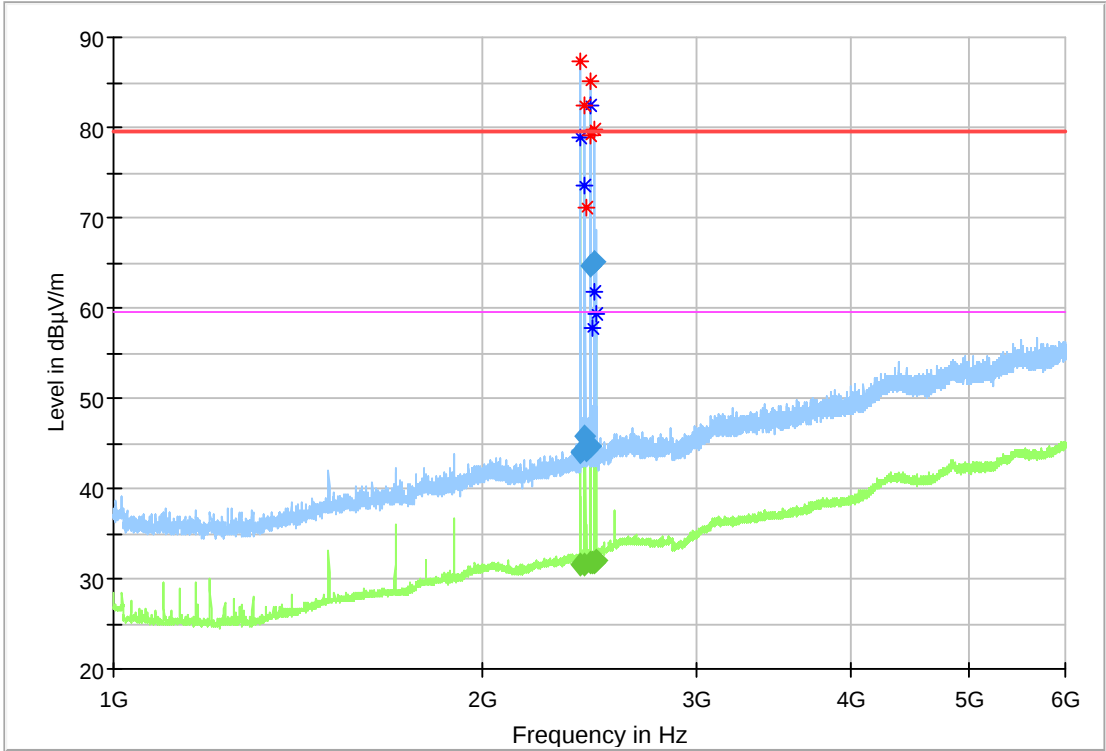
1.2 Radiated emissions in the frequency range 1 to 6 GHz

Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	8PORT IOL-B FLD PN DC 24V 2.0A – WideLine 765-4102/0100-0000
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HW Version:	Rev. 4
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum



- * Preview Result 2-AVG
- FCC15.109 PK Class A 1-6GHz
- ◆ FCC15.109 AV Class A 1-6GHz
- ◆ Critical_Freqs PK+
- ◆ FCC15B_RSS_Gen_PK

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/)
No conspicuous frequencies detected – Margin to limit > 10 dB (Peak/Average)										

- The Peak at 2.4 GHz is a wanted frequency for Bluetooth signalling.

Diagram No. 4.02 FCC

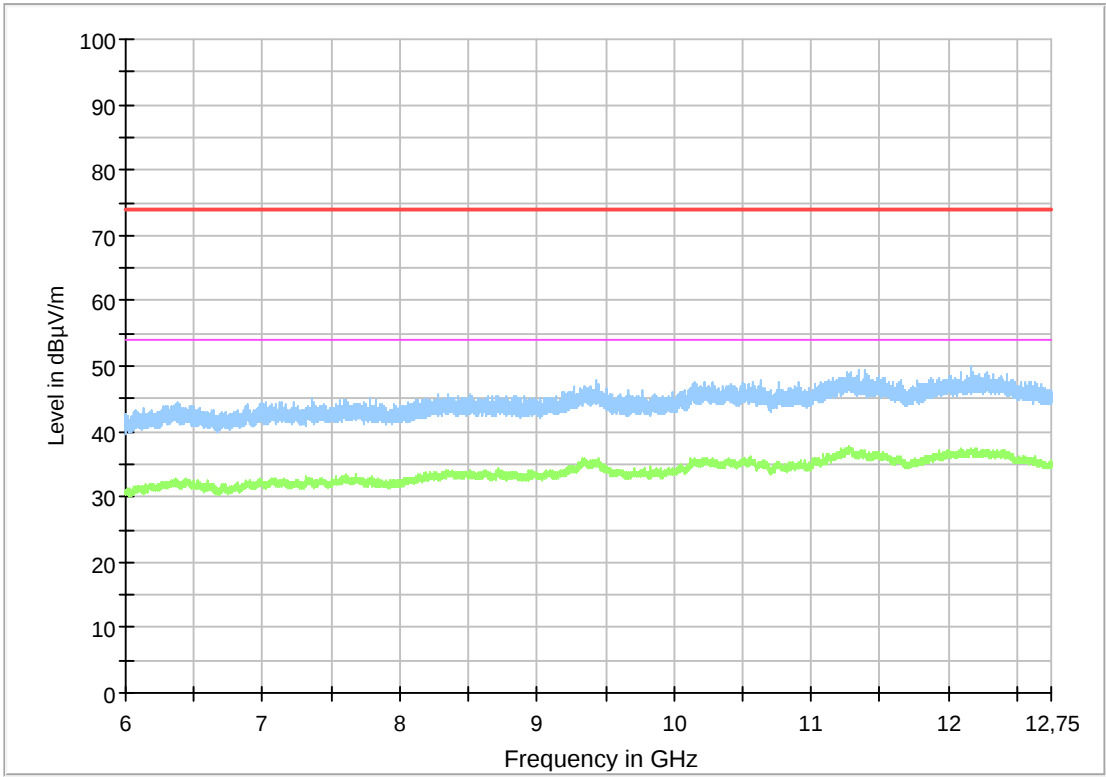
1.3 Radiated emissions in the frequency range 6 to 12.75 GHz

Test Description:	Electric Field Strength Measurement
Test Site & Location:	Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Version of Testsoftware:	EMC32 V10.0.0
Test Specification:	FCC15.109, class A; RSS-Gen.: Issue 4
Operating Mode:	Continuous Data transmission between the Test plate and EUT. Permanent Bluetooth connection (Mobile Phone + EUT).
Environmental conditions:	Humidity: 49 %; Temperature: 21.6 °C; Air pressure: 996 hPa
Operator:	AUe
Comments:	-

EUT Information

Manufacturer:	WAGO Kontakttechnik GmbH & Co. KG
EuT:	8PORT IOL-B FLD PN DC 24V 2.0A – WideLine 765-4102/0100-0000
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HW Version:	Rev. 4
SW Version:	V1.0.2.0
Firmware:	BT-FW: V1.2.0.0

Full Spectrum



* Preview Result 2-AVG Critical_Freqs PK+ — FCC15_109_PK_Class_B — FCC15_109_AV_Class_B
◆ FCC15_109_PK_Class_B

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/)	Margin (dB)	Meas. Time	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/)
No conspicuous frequencies detected – Margin to limit > 10 dB (Peak/Average)										

End Of Annex 1